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Correspondence from practical farmers, giving the results of their experience, is solicited. Letters should be signed with the writer's real name, in full, which will be printed or not, as the writer may wish.
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Killing Wild Grass.

I see my friend, Mr. B. P. Ware, has an article in your paper of last week on wild grass. A few years since, for the benefit of my brother farmers, I wrote an article for your paper on this subject, giving my way of getting rid of the pest, for I consider it so, notwithstanding Mr. Ware speaks good words for it. I believe we should be vastly better off if it could be banished from our farms. I will tell you my method of dealing with it.

Some years ago I had a field of about an acre which was full of it, causing a great deal of trouble and expense to subdue it enough for crops to grow. I had read that planting turnips or cabbage would kill it out, so I began with one corner of the field and planted it to turnips. The next year I was happily surprised to find that I had killed it out. I kept enlarging until I took the whole acre for turnips, and today that field, which cost me so much time and labor to care for, is the best and easiest field I cultivate. If any of my brother farmers have this grass to contend with, where the land is a sandy loam, and if they will plant turnip I think they will find it the easiest way to kill the grass. If the land is heavy, clay land, plant cabbage, cultivate them well, and I think the owner will be pleased with the result.

My theory is that in planting these crops we hoe them later than corn or potatoes, and there seems to be a time in August when, if the grass is out off with a hoe to the depth of half an inch or so, it does not sprout again, and the roots die, which is just what we want. Try it, brother farmers.
Norwell, Mass. H. A. TURNER.

Trials of a Country Gentleman.

The never-ending problem of labor on the farm, either as to finding men to do the work, or once found, having the work satisfactorily accomplished, is no subject to be dismissed as half imaginary. If any man thinks so let him read the experience of this man who knows all about it, to an extent that he is almost ready to sell out his farm and leave farming to those who can look personally after the care of their stock and the raising of their crops.

The man of whom I write has a fine farm of sixty acres in a town near Lowell, Mass., and he has for a long time wanted me to see it. He is a busy man, engrossed with his business, but two years ago he had a good opportunity to buy a place in the country. Born and reared on a New Hampshire farm he could not resist until he had some land of his own. Now he has it in his possession, stocked with a hundred or more pigs and a score of cattle, he can barely find time to go there once a week, and then for only a few minutes at a time. He has been obliged to leave it all to the three men he hires to "keep it up."

I have waited patiently for my invitation to go to the farm; for I am interested. The invitation did not come, and the other day I learned the reason. Here is the man's reason:

"I'm ashamed to ask any one to see the farm. I've hired three men to work the farm, one of them as manager, the others to assist. I pay the manager \$40 a month, and he has the house free and anything that the farm will produce for the table. Another man I pay \$30 a month and his board; the third man I pay \$10 a week and he finds his own board. I pay them all just what they asked. The manager was recommended as a man who could take charge of a farm and conduct it properly. I went out there a few days ago, and it made me so angry to look over the place I had to come away. In a fine patch of blackberries and raspberries the weeds were so high between the rows that from a little ways the bushes and weeds looked the same. The bushes had been planted wide apart so that they could be cultivated with a horse. In a part of the garden where several thousand asparagus plants had been set out weeds had grown and almost choked out the asparagus. Turnips had been planted so thick that when they came up they were too small to be of any market value. It was the same everywhere. I bought machinery to do all the work with the least possible labor, and then the work was not done.

The foreman told me that they had been pretty busy with the haying and had not had time to attend to everything. Then he said there had been some bad weather. But he had not taken advantage of the bad weather to oil the harnesses, which, though new, had become hard and dry. I built a shed for the wagon, which was one of the best I could buy, but I found that they were not in the habit of keeping it there. It had

been left out in the sun until the heat had peeled the paint.

"Part of the machinery used in the haying I found by the roadside, where it had been left the last time used. It reminded me for all the world of the way some of the shiftless farmers did in the town where I lived when I was a boy.

"Last year I excused unrepresentative conditions because there had not been time to start things properly and because I had not bought machinery. But there is no excuse this year; the men have everything to do with. I can't go out there and run the farm myself, but I know one thing: I'm going to have a man who will take care of that farm for me or I am going to sell the farm. I've got one of the best farms in this part of the State and I want you to see it, but I must be in better appearance than when I saw it."

Weak Points in Farm Practice.

[From address of President W. D. Gibbs of New York Agricultural College given at the State field meeting, July 27.]

One source of loss is in trying to cultivate fields which are too rough and stony to yield a profit. Many of these fields would give better returns in forestry or permanent pasture. Even a small amount of extra labor in producing a crop eats up the profits.

Again, many farmers practice continuous cropping. This is particularly true of meadow lands. In many instances good tillable fields are seeded down and remain so for many years. Hay is one of the most exhaustive crops and who could expect soil to retain its fertility producing a crop of hay every year for a series of years? Many of our farmers have yet to learn that rotation, or change of crops, saves fertility.

Not enough attention is given to the growing of clover or other leguminous plants, which give good yields of the most nutritious of fodder containing a large percentage of nitrogenous material, which in itself is one of the most expensive substances we buy, whether in cottonseed meal or in nitrate fertilizer. The clover plant has the peculiar property of gathering this nitrogen from the bountiful supplies in the air, and transmitting it to crop and soil, thus serving the double purpose of giving us nutritious hay, and, at the same time, enriching the soil for the next crop.

Our live stock should be improved and it would cost comparatively little to do it. Light-weight "scrub" horses are to be seen on farms all over the State. It costs practically no more to raise and keep a good horse than it does a "scrub," and the good horse can do twice the amount of work. Ours is a great dairy State, and yet a large percentage of cows "eat their heads off" every year and the owners do not know it. It costs no more to keep a good cow than it does to keep a poor one.

Economy of labor is another important point to be looked after. A few days ago I saw a man mowing by hand over a piece of rough ground where the hay was light. He out about ten cents worth of hay per hour, and was paid fifteen cents for doing it. So much for a dull scythe, a rough field and a man not over energetic. At other times this season I have observed two men cultivating corn, one leading the horse and the other holding the single cultivator, which was taking one-half a row at a through. With a two-horse cultivator one man would have done the work of four men. At another time I saw three men drawing hay to the barn, riding the half-mile each way. Moreover, the horses walked the entire distance from barn to field, although they rested about one-half the time while the hay was loaded and unloaded.

The successful farm manager of today should be a man of unusual qualifications. He should know the science of farm equipment, soils, crops, live stock, feeding, veterinary medicine and surgery, horticulture, dairying, entomology, as well as other branches, and what is equally important, he should be able to apply his knowledge in a sane practical way. He should have been business sense and judgment; and the ability to sleep soundly eight hours a day and be wide awake and hustling the other sixteen. Withal he should be a man whose honesty and integrity are above reproach and he should be noted for fidelity. It goes without saying that he should be a good citizen, with liberal breadth of view and wide sympathies.

Wild Parasnips.

The statement made by your correspondent, Guy E. Mitchell, in his "Notes from Washington," that the wild parsnip is not poisonous but has acquired a bad reputation because of its resemblance to the wild hemlock is scarcely borne out by the descriptions in the encyclopedia, which says the hemlock has "a round, branched, hollow, bright green stem, two to seven feet high, generally spotted with dark purple; the leaves large, tripinnate, of a dark shining green color; the leaflets lanceolate and pinnatifid; the root somewhat resembling a small parsnip." The species most common in North America, water hemlock, has also "spotted stem, with triternate leaves and ternate leaflets." The parsnip has "angular furrowed stem, two to three feet high, pinnate leaves, with ovate leaflets, rather shining, out and serrated, and a three-lobed terminal leaflet." The root of the wild plant is white, aromatic, mucilaginous, sweet but with some acridness, and injurious effects have followed from its use.

I do not claim that the wild parsnip is as virulent a poison as the water hemlock, yet it might prove fatal to any one who was in feeble health, and is especially dangerous to children. Even when the cultivated parsnip starts to grow, after being in the ground through the winter, or when, as sometimes happens, it degenerates so that it throws up

a seed stalk the first year, it is so decidedly unwholesome as to be entitled to be called poisonous, though not often a fatal poison. It is nearly in the same class as tobacco, thornapple and many other plants. I have copied the above descriptions that your readers may recognize both plants, and advise them to avoid eating either. If the wild parsnip does not kill it is likely enough to make one who eats it so sick that death might for a short time seem the preferable fate.
M. F. AMES.
Massachusetts.

Keep the Tools in Order.

What a mistake it is for farmers to neglect to keep their tools in order. On some farms will be seen plows, harrows, cultivators, horse rake and mower, scattered about the farm and barnyard, the paint is off and rust covers the metal parts, bolts are loose and some parts are broken. Can satisfactory work be performed with

covering it with dirt to prevent displacement by the wind. It will take about three weeks for the roots to fill the pot, during which time the plant should "stand pat." Cut the runner and leave the pot undisturbed for a few days to allow the plant to become well established as an independent institution. If the weather is dry during this time, the application of water will be required directly into the pot.

Fibre pots are now manufactured at a very low price, and may be shipped with the plants, adding very little to the cost by express. If in earthen pots turn out the plants when shipping and pack in damp moss, leaving the foliage fully exposed to the light and air; and in this condition they may be transported almost any distance without risk. I have received plants from Ohio and other distant points in perfect condition. The pen-sketch here given represents better than can be described the method of growing potted plants.



SEPARATING HONEY FROM THE COMB.

F. G. HERMAN at work in his well-known apiary in New Jersey.

such implements, think you? To keep tools in this way is very expensive and no farmer can afford to do so. It is very annoying to a good plowman to have anything about the plow loose; he wants to feel the firmness of the plow in his hands.

Even the hand hoe needs attention; a file should be used to keep it sharp, and when put away for the day all dirt should be cleaned from it and a little oil rubbed over it that no rust may gather on it. Such a hoe does much better work when next taken out than if left wet and dirty. Why not give a little attention to this matter and keep the tools in condition to do their best. It is somewhat astonishing to see so many farmers neglect this important factor in making the farm pay. Tools out of order make hard work for operator and for team; and besides the job is not nearly as well done.
F. H. DOW.
Steuben County, N. Y.

The Peach Harvest.

The local crop is shipped in the common one-half bushel Jersey peach basket. The only advantage this package has is that it is costing from \$35 to \$40 per one thousand, and when empty occupy but little space.

The great objection to this package is the amount of space it occupies when filled in transportation from the orchard to the packing shed and to the cars if shipped to a distant market. Then if the fruit remains long in the basket the form is such that as it settles more pressure comes on the fruit below than if the sides were straight, thus causing rapid decay.

The Michigan peach growers ship much of their fruit in the "slat" bushel basket. This basket does very well for hard fruit shipped by rapid transit, but would be of little value in our local markets, while the cost is several times that of the common peach basket. The ideal package for this fruit is a carrier something like that used by the Georgia peach growers.

Two sizes are sometimes used, the three and the four-quart baskets, four or six in a carrier, the four-quart basket for the fruit of large size and the three-quart for that of smaller size. Some growers pack the smaller sizes on the bottom of the baskets and the larger fruit on top. This is a very good way to arrange the fruit if two grades were desirable in the same package, but better prices will be obtained if all the fruit in each package is of one size. The objection to this package is its cost and the greater amount of time required in packing, and it is not a return package. Fruit will keep longer, however, in this package than in the Jersey basket, be less bruised and sell at better prices, thus in a large degree making up for this increased cost of packaging.

Potting Strawberry Plants.

The amateur is often anxious for a strawberry bed in bearing at once, and cares very little about the expense. This demand from those who are in a hurry has led to the practice of rooting plants in autumn in small flower pots, and such plants are furnished at about double the price of those that are allowed to strike root in the ground.

The method adopted is, as soon as the old plants throw out runners in July or August—to fill two-inch pots with rich soil or fine compost. The better the material, the sooner the plants will fill the pots with roots. Sink the pot in the ground under the young plants, and fix the plant in position by placing on the runner a small stone, or

planned with water well boiled, and afterwards inverted on a raised platform, exposed to the sunlight, out of range of any objectionable odors, and where there is no floating dust. Sometimes the cleansing can be done by steam at the factory where the milk is delivered, and when so it is undoubtedly the best way. Not only should milk cans thus be cared for, but the interiors frequently examined to detect any flaws in the seams, which, with dents, are as dangerous to the sound keeping qualities of milk as rust or dirty rags around the lids. Even in cleaning a can, the use of a cloth or rag is not commendable; much better is it to have a good sound brush, for with that all the difficult places both inside and out can be more effectively reached.

Harvesting under Difficulties.

The last three weeks have been very trying for the patience of farmers while harvesting their hay crop. Large quantities of hay have been damaged, causing serious loss. Many fields yet uncut have deteriorated very considerably by ripening their seeds, thus losing much of the milk-producing quality. Hay thus far has been bulky, but weighs light, having had but little sun. Therefore a more bulky ration will be needed to keep up the flow of milk.

From now to the middle of September will necessarily be a very busy time with farmers in harvesting their crops, also marketing them at the right time, besides seeding down land, a process which requires a large amount of labor to have the work well done, and getting the soil in fine tilth, all stones removed and the ground made very level, so that every inch of surface shall be utilized by the coming crop. I find many farmers negligent and careless in this respect. Winter apples promise a fair crop of nice fruit. Gravenstein apples are dropping very much; lack of sunshine is the cause. No doubt potatoes will turn out well and of fine quality.
JOHN FISK.
Middlesex County, Mass.

Harvesting the Potato Crop.

The late crop is disposed of where there is a nearby market at this time by selling directly to families as well as to grocers. The prices obtained are often ten cents a bushel above car-lot prices on track.

The late crop should be harvested as soon as well matured, as there is usually danger of loss by freezing after the middle of October. Unless the grower has had experience in shipping and selling his crops, he will probably do best to sell to local dealers. The grower who has the ability and experience to successfully sell his crop will probably soon be a dealer and not a grower. Consignments are not generally satisfactory, not because the commission man is not as honest as the rest of mankind, but for the reason that he is a buyer of potatoes and has his own stock to sell first. Then he has several large shippers whose business is looking after, so the farmer's potatoes are liable to be sold last and probably to some merchant whose trade is worth giving him a bargain at the expense of the farmer.—Delbert Utter, Caldwell, Wis.

Experience with Cement Floor.

Five years ago, when I built over an old barn, I put in cement floors throughout the whole barn, but at the same time put on the stable floor one-inch pine boarding. Three years ago I built another barn, and in that I put in the cement floor, because it was suggested to me that plank was not quite as sanitary. Having a quantity of planing-mill shavings at my disposal, I thought I could overcome the trouble, so I put them with some straw on the cement floor. My cows go out for some time in the middle of the day, but most of the time stay in the stable. I have noticed that they will occasionally get the shavings out from under them and get the udders down onto the cement floor. I put the boards on the top of the cement, and I like it better. Put them on in sections, so they are easily taken up, and the place cleaned out.—W. L. Carlyle, Madison, Wis.

Grape Quality Pays.

Grape growers who will persist in growing the Champion grape and alluring by its earliness the consumer into buying a few of his early shipments, is continually inviting disaster to the best interests of grape culture.

The consumer whose teeth have been set on edge, remembering the tough, indigestible pulp of the Champion, and the sting of its foxiness upon his palate, quickly drops the price from ten cents a pound to two, and thereby fixes and establishes the price he will pay for all grapes that are to follow. The sooner grape growers pull out the blocks of Champions in their vineyards, and cease to force upon consumers annually a disappointment in their first purchases of grapes, the sooner they will be able to command better value for their varieties of high quality.—G. F. Powell, Ghent, N. Y.

Improved Dairy Apparatus.

One of the most valuable publications of the year to those engaged in the production of milk and butter is the new dairy catalogue just issued by the Stoddard Manufacturing Company, Rutland, Vt. This is one of the most extensive and comprehensive little books that has been published on this subject, embracing nearly one hundred pages of informative and valuable matter and provided with over two hundred cuts of dairy apparatus and butter-making appliances and milk dealers' supplies.

In looking over this catalogue, we have been surprised at its comprehensive character. Illustrated articles are published concerning cream separators, churns, and butter workers of all descriptions, the Stoddard Creamery cream cooler, refrigerators, ice

tools, milk bottles, and washing machines, milk cans, cream-carrying cans, milk pumps, wash sinks, and the like.

The Stoddard Manufacturing Company supply the official Babcock milk tester with silver milk tubes and what glassware is necessary, also with the acids for testing, fermenters for ripening cream and milk, test bottle-racks, thermometers of all varieties, brushes, butter labels and packages.

We have been interested in the variety of improved prints, carrier packages and tubs of all kinds. The Stoddard Manufacturing Company also make a specialty of scales, trucks, engines and boilers, combination water tube boiler and engine, gasoline engine, feed cookers, horse powers, and in fact everything which facilitates the work of the dairy. Considering the fact that any one of our readers can secure this valuable pamphlet (which is worth \$5 to any one interested in the dairy business) for the simple request by postal card or letter it forms an unusual opportunity for securing a thorough education in modern dairy implements and the requisites for successful dairy business. The Stoddard Manufacturing Company are to be complimented for their enterprise in publishing such a valuable little book for those interested in dairy matters. Address requests to Rutland, Vt.

Destroying Hardhack.

Not long ago I had occasion to cross the adjoining pastures of two large dairy farms with natural conditions about alike. On one there was a large amount of hardhack, while on the other there was only an occasional small shrub to be seen.

On the first there had been no attempt to destroy or destroy the growth, but I found on inquiry that on the other thorough work had been done in pulling up the bushes in the fall a few years since. It must have been pretty thorough, too, and effectual to hardly leave a trace behind. Perhaps the fall pulling was what did the business, similar to that of cutting. It is well worth trying anyway.
E. R. TOWLE.

Hope for the Innocents.

The objection of the owners of flat houses to lease apartments to families containing many children is well-nigh universal in many cities, and more particularly does this prevail in New York, where a man with several olive branches finds it almost impossible to secure a decent tenement in a respectable neighborhood.

Now, however, a philanthropist has come forward who proposes to build a six-story apartment house in the borough of Bronx, where children will be eagerly welcome. It will be called The Nursery—happy name—and it will have a garden on the roof, open to the sky, but safely enclosed on all sides to prevent the little ones from falling to the ground below. In addition, it will have a play-room in the basement, where there will be various appliances for giving the children pleasure indoors, such as seesaws, rocking-horses and swings. That edifice will be a juvenile paradise and will not lack for tenants, though sometimes they may not be able to hear themselves talk. We would suggest that the floors and walls be made sound proof, for even a parent does not like to listen all night to the hilarious noise of his own offspring.

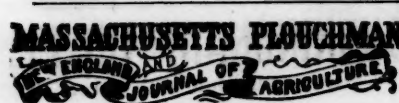
But the builder is full of the milk of human kindness, for he not only provides all these pleasurable accommodations, but he offers prizes for unusual increases in the infantile population. For instance, the father of new-born triplets is released from paying rent for six months, and a man who is fortunate or unfortunate enough to own more babies than this at one birth, gets a receipted bill for rent for a year without money and without price. The father of one babe born in The Nursery, however, only goes free of meeting his rental obligations for a single month.

Here then is a landlord after Theodore Roosevelt's own heart, a real estate manipulator who puts his desire for the increase of the population above his wish for gain, thus helping his brethren to follow the Biblical injunction without regard to filthy lucre. But has he considered what it is going to cost him for repairs? The burden of destruction is very largely developed in girls and boys—in the latter particularly, though The Nursery may have a soothing influence on young nerves, and the children who enjoy its privileges may be something better than little animals whose consciences have not been developed. However, this model tenement building, as we have already intimated, will not lack for applicants for rooms, and perhaps the Bronx philanthropist has solved a problem that long has troubled social reformers. May the innocents within the walls of The Nursery live long and prosper!

Extracting Honey.

Which is more profitable, comb or extracted honey? That is largely a question of circumstances and location. In some locations and seasons comb honey would be the most profitable, but taking it altogether, the extracted would be more profitable, for when there is a small honey flow, and you have the extracting combs, the bees have no comb to build and they can spend their whole time gathering honey; when, if they had to build the comb, they would get but little honey, and perhaps not get that in marketable condition.
F. E. HERMAN.
Englewood, N. J.

Experiments recently made in France for the purpose of ascertaining the nutritive value of salt for sheep show that sheep which had been fed salt gained in weight 4½ pounds more than those which received no salt. Moreover, the sheep which received salt produced 1½ pounds more wool and of a better quality than those which received no salt.



TELEPHONE NO. 3767 MAIN.

Thought is a good crop fertilizer, and care is a fine stock feed.

What a glorious opportunity to enjoy the old New England pleasure of dusting, sweeping and putting things to rights again!

Massachusetts will send a fair share of sympathetic understanding to the Colorado judge who has just declared that he will never impose capital punishment.

A contemporary remarks that up to date there are not enough automobile owners to make the automobile vote important. But how about those who hire them by the hour?

If the present fashion of tearing down and rebuilding on Commonwealth avenue continues, as it bids fair to, the brownstone front will soon become a rare historic curiosity.

The hour-glass of vacation is beginning to run out, but there are still a few weeks in which the youthful mind can be getting used to the notion of associating with text books.

The campaign portraits are beginning to blossom. Some of them are better than usual, but there are still plenty that it would be unwise to put on exhibition without the explanatory label.

"Krugers' millions" will soon have a record equal to the vanished treasure of Captain Kidd himself. Four of five expeditions have already come to grief off the South African coast in quest of them.

If the Czarevitch should turn out to be what New England school teachers sometimes call a "case," he may have reason to thank his stars that papa celebrated his birth by abolishing corporal punishment.

Here's another walking delegate arrested on the charge of extortion from an employer. If he's convicted the wise workman will be just as glad as anybody else to get rid of him. And there are, fortunately, a good many wise workmen.

And so the St. Louis Fair is to be boycotted on Labor Day because it has stood for the open-shop theory. Such a boycott will be rather a good advertisement in the present attitude of the public mind toward this particular spirit among the unions.

The Rev. Mr. Brownback of Pennsylvania, whose romantic quest of a helpmate passed like a butterfly not long since through the columns of the daily press, has declared his opinion that a minister who refuses to marry persons who have been divorced is cruelly inconsiderate.

The mackerel fishermen are hardly looking upon the sharks in the same complimentary fashion as the French fisherman used to regard the porpoise. The sharks have been tearing the fishermen's nets, whereas it used to be believed the porpoise helped the fishermen by driving fish into them.

The solution of the servant-girl problem will hardly be advanced by the statement of one of our contemporaries that serving maids deplore the period when they are out of service in summer, because they are then deprived of the private bath to which they are ordinarily accustomed.

Despite all this display of historical inscriptions the average good Bostonian will probably retain his ignorance of local traditions. The average American often seems to argue that it is a good deal of trouble to have historical traditions anyway, if you always have to be remembering them individually.

Now that the Dowager Empress has determined to suppress graft in Chinese office holding, reformers on this side of the water will doubtless have the benefit of strenuous example in the treatment of grafters. Like the duchess whom Alice met in Wonderland the Dowager Empress has a certain directness of method.

The news comes from Texas that mosquitoes have completely stopped the operation of one of the Southern railroads, the section men being altogether unable to attend to their duties. Whether the mosquitoes are union or non-union isn't stated, but the tale should bring comfort to anybody who thinks mosquitoes are bad in this neighborhood.

On some of the forty-acre farms in the British Channel Islands the farmers keep thirty or more Jersey cows and employ five or six hired men. But the owner doesn't have to pay the help thirty or forty dollars each per month and house rent. Intensive farming is all very well, but it requires workable land, plenty of moderate-priced help, a good manager and a good market.

Our estimate of a moderate apple crop is being confirmed by later reports. The marked shortage in the Middle West is likely to offset the expected higher foreign demand, and a lively call is anticipated for the good average apple crop of New England and the North Atlantic States. The outlook for the foreign market shows recent improvement, the drought in England having caused a severe summer drop and reduced the crop somewhat both in quantity and appearance.

The temporary rise in beef products has started quite a lot of talk about the chances for raising beef in the Eastern States. Of course it can be done. Parts of New England and the Middle States include some of the best natural grazing regions in the world, and good beef animals are produced when the stock is of the best breeds. The main question is whether beef will pay as well as dairy products. It seems hardly possible that it would except in locations far from creameries and shipping stations.

Prompt, quick cooling before shipment appears to be as essential for peaches as for market milk. The secret of fresh Georgia peaches in hot weather at Boston seems to have been in the use of cooling rooms right in the orchards. It is reported that these cooling rooms have peaches enough to pay for themselves the first season. Something of the sort is almost equally necessary in Northern peach-growing sections, particularly where the early varieties are grown. The full advantage of a big supply of ice

on a fruit farm can only be realized from experience.

The important Aug. 1 crop report of the Government appeared recently and was very favorable. Following the excellent cotton report, the outlook for crops in this country is particularly flattering. Winter and spring wheat—the two crops about which pessimistic rumors have been spread—are not so disappointing after all. The winter wheat crop is figured at 334,400,000 bushels, or 12.2 bushels per acre, against 12.3 bushels per acre last year. The condition of spring wheat was 87.5, against an Aug. 1 average for ten years of 81.2. The condition of corn was 87.3, against an Aug. 1 average of 83.5. With cotton excellent, wheat reasonably good, corn very good, and other crops far above the average (oats, for example, are put at 86.6, against a ten-year average of 82.7), the earth is treating the country extremely well at a time when pessimism was very near to becoming dominant. Moreover, exceptionally high prices now prevail for all crops.

Our country schools need a stronger tinge of farming sentiment. Studies, text books and teachers are all keyed to the tune of the city. The pupils should be given at least half a chance to appreciate the meaning and beauty of nature and country life. But with books and teachers out of sympathy, the born farmer is often enticed away from his true calling. Something like the Swiss plan would be desirable. There the schools of grammar grade offer very practical studies to country children. Thus in animal husbandry, some time is spent judging and describing the different types and breeds of animals, with the assistance of oats and colored models as well as living animals. The same definite plan is followed in other lines of agriculture, so that the young pupil is helped in his start in country life or is prepared to enter a higher institution and take a thorough course of training. Something of the kind would do no harm in our city schools as a remedy for the distressing ignorance and prejudice so often shown on such lines. But for country schools the need of a method more appropriate than the present has long been manifest, and the beginning of a change is already seen in some localities.

The two weakest points in the grain crop situation are the reported outbreaks of rust on spring wheat in the Northwest, and the backwardness of corn which, with the cool average temperature, threatens injury by frost before the corn is ripe. These danger points, particularly the rust scare, have been worked to the limit by speculators in trying to raise prices. Probably the rust talk has been overdone. Such outbreaks are generally local and do not very greatly lessen the crop as a whole. Government reports and late news indicate that spring wheat crop will be large, notwithstanding all drawbacks. In Europe the early reports of shortage are confirmed, the cause being chiefly the drought, which seems to have been severe in countries of Europe. Parts of southern Russia are even threatened with famine conditions. Evidently the surplus of American and Canadian wheat will all be wanted at good prices. German and English estimates of the world's wheat crop agree that there will be a shortage, the estimates varying from forty to one hundred and sixty million bushels below last year's crop. As the United States, Canada and Argentina promise a large crop, there is a prospect of old Europe's spare gold coming West at a rapid rate next winter. The shortage indicated, in addition to the usual demand, would seem to indicate a good and profitable market in the future.

The prophets of the new agriculture have received a recruit in the person of Premier Joseph Chamberlain, who recently declared himself as follows: "Whatever improvement there may take place in agriculture hereafter, one thing is quite certain—that it will not be the agriculture of generations ago. It will be a new industry, conducted on the most scientific principles. I do not mean to say that even now there is not a great deal of science in the ordinary agricultural industry, but I mean it will be all science, and it will only be by applying the highest science that agriculture can continue to be the great industry which it still is." This is probably true in the sense that as competition increases, none but exact, thorough, businesslike methods can succeed. Almost any way will afford a living while land is plenty and farmers few. But as land becomes more and more valuable the world over, it must gradually pass into the hands of those who can get a return in proportion to the investment represented by its value. The old-time Western farmer who half-tilled his lands, raised a few bushels of grain to the acre, wasted the farm fertility and left his machinery out all winter, could scarcely hold and pay taxes on land in the market-garden region near Boston, for instance, unless his methods became far more "scientific." Only a good farmer can make high-priced land pay well, and so the tendency is toward better farming from the very necessity of the changing conditions. Some day, perhaps, none but the trained and skilled farmers will be able to get and keep agricultural land in the United States. Others must emigrate to unsettled regions or accept places as hired help. Whether for good or evil the period of incompetent farming is gradually coming to an end.

The Backwardness of Consumers.

"Sometimes one wonders that with all the opportunities for improvement why dairy farmers are not more advanced in their methods," observes a dairy lecturer, who then proceeds to answer his own query in part by advising farmers to equip themselves with new machinery, charts, cement floors, etc., to hire more labor in order to produce fatter crops and keep things clean about the barn.

All of which is very well for the man intending to produce certified milk or to cater to a select trade, but not very tempting to the majority who are trying to make a living on milk sold to contractors or to creameries at a small fraction of a cent profit over actual cost. The experience of these producers has not led them to believe that a higher cost for the product will be duly considered by the purchasers.

The real backwardness is not with the farmers, but with the buyer. Let the wholesalers offer say a cent per quart more for milk produced under the select conditions outlined by the lecturer mentioned, and how the farmers would hustle to provide the cement floors, patent coolers, whitewash, straw bedding, improved managers and all the other fixings. The wholesalers in turn would be likely to place the responsibility on the consumers by declaring that most of these appear to know or care little about the history of the milk, and would talk at a fancy

price for choice milk. So, after all, it is perhaps the consuming public which needs most to be convinced of the money value of special care in relation to dairy products. The modern business farmer is able and willing to supply quickly any want, reasonable or otherwise, for which the consumer is willing to pay a fair price.

The Czarevitch.

The birth of an heir to the Russian throne has been hailed with great delight by the subjects of the Czar, if we may trust all accounts, and this coming of a Czarevitch may do much toward reconciling the internal differences of the empire. It may also check the attempts of the Revolutionists to overthrow the government. They will find fewer converts now to their anarchistic doctrines, since the Czar's motherhood of a son may make the common people look upon her with more affection. They have hitherto regarded her as a woman who was a curse rather than a blessing to her husband, and have smiled with contempt upon the daughters which she has given to the world. This indicated to their minds that the succession to the throne would pass to the grand ducal family of Vladimir, a house held in contempt and execrated generally.

Now sympathy with the disaffected in Finland and Poland will probably disappear amid the general jubilation over the fact that another princess has not arrived to make stronger the chances of a justly unpopular family coming into supreme power. Patriotic spirits will be aroused by the new heir, who, like the young bear, has all his trouble before him. Poor little unfortunate, he is not to be congratulated on his advent into this world of unrest, for he may be called to succeed his not too robust father long before he is able to distinguish right from wrong.

The country naturally expects as much from the new heir as did France when a son was born to the Emperor Napoleon Bonaparte, but what a dismal failure the young King of Rome and the Prince of Vienna proved to be. May the Czarevitch have a happier destiny than the weak son of Marie Louise, and may his mother prove to be a better mother than was the frivolous princess of Austria who was not even loyal to her banished husband. It is lucky, however, that the Russians have something to withdraw their attention for a time from their disastrous defeats in the Far East. There is now a silver lining to the cloud, and that is not despised amid the otherwise surrounding gloom.

The Late Senator Vest.

It is to the lasting glory of our country that after the civil war over those who took part in the contest were reunited under one Government as strongly as if there had been no attempted separation between the North and the South. Those who fought under the conquered banner returned to their allegiance to the old flag as loyally as if there had been no Stars and Bars, and were received fraternally by those with whom they had quarreled in regard to the preservation of the Union.

Among those who came back to the family fold, resolved to forget the past and its grievances, was the late Senator Vest, who has recently passed away, and who served in both branches of the Confederate legislature during the Rebellion. He became a member of the Senate of the United States fourteen years after the war was over, and was conspicuous there for nearly a quarter of a century. He was an orator and debater of no mean powers, and his utterances in public showed great keenness of intellect, a ready use of an abundant vocabulary, a natural sense of humor and a nimble wit ready to be drawn upon in an instant to make a telling point. At the same time, he was solid and convincing in argument, and he found few men who were willing to contend with him in verbal warfare. His legal attainments, too, were of an excellent character, and he was thoroughly informed concerning the political history of his country.

His voluntary retirement from office as a senator regretted by the people of Missouri, who had a warm affection for their senator, though he was only an adopted son, and he could, no doubt, have been re-elected to that office for another term had he so desired. He was a man who had the courage of his convictions, and though he was a warm personal friend of the late Senator Quay of Pennsylvania he refused to vote for the admission of Quay to the Senate upon his appointment by Governor Stone, though his single vote would have given the Pennsylvania seat which he afterwards obtained through his election by the legislature. Vest did not love Quay less, but he loved constitutional principle more, and the two men remained firm friends notwithstanding their public differences.

Senator Vest won the esteem of even his most bitter political opponents, and his career as a statesman was one of remarkable success.

The Grand Army Encampment.

This week the city of Boston is honored by the presence of the Grand Encampment of the Grand Army of the Republic, and it has done its best to show its appreciation of the honor and to extend a cordial welcome to the veterans and their friends. Let us hope that they will enjoy the occasion as much as they have anticipated, and the flags, the decorations and all of the programmes arranged to give them pleasure, will be taken as it is meant, as an attempt on the part of our citizens to show the veneration and gratitude they feel toward those who have so bravely preserved the Union when its dissolution was attempted by those who thought they must ruin our Republic if they could no longer rule it. Many of these visitors have never before seen Boston or the State of Massachusetts, while others to whom it was once most familiar are taking this opportunity to revisit the scenes they knew so well before the breaking out of the war, and which they have not forgotten during the years they have spent in other States, or, perhaps, in other countries. To both these there will be a chance to view the historic locations in Boston and around it; to see the spot where the Puritans first landed and settled to establish the principles of free schools and a representation of the entire people in a government of and for the people; to visit the battlefields of Massachusetts, Concord, Lexington and Bunker Hill, fortunately few in

number and unimportant in the number of men engaged or lives lost on either side, as compared with the great struggles of the civil war, but most important in the history of our country as being the first step toward gaining that independence and forming that union of the colonies for which our forefathers fought and which these visiting comrades preserved.

The visits to our seashore resorts and to the homes of some of our leading manufacturing industries may also be enjoyed by many of them, but the great object underlying this gathering will be to the most of them the privilege of meeting once more the comrades with whom they shared the pleasures of camp life as well as the hardships and dangers of the more active campaign, so many years ago. To those who had no share or lot in the ties of comradeship formed in so many months during which they were daily companions, may seem to be exaggerated when they bring men together, after so many years of separation by hundreds of miles of land and water, but to many of them these feelings are stronger than the ties of blood brotherhood.

When forty years ago the people of Boston returned to their homes, through its streets, the feeble remnants of the regiments that had marched away so proudly three years before, and saw them toll-stained, ragged and worn, yet with the lust of battle still upon their faces, there was not wanting many to prophesy that the disbanding of the army might prove at the close of the war a greater danger to the institutions of the Northern States than had the war itself. They said that so many months away from the restraints of home and all that were called the influences of civilization would have unfitted these men for the more monotonous duties of citizenship in a quiet community. They feared that men who boasted that for days or weeks they had subsisted upon the spoils of an enemy's country, or had added to the rations which the Government allowed them certain luxuries which they had obtained by foraging or confiscating without due process of law from the houses and farms by which they had marched, would have but little regard for law and order or for the rights of property when they reached home.

Some predicted that they would be but little better than brigands or guerrillas when let loose from the restraint of their commanding officers in the villages and cities to which they were returning. Others who liked the soldiers better and had more respect and sympathy for the work they had done, felt more sanguine as to their becoming once more peaceable citizens, but were not without some misgivings as to the habits they might have formed during camp life, and they were surprised to find that as a class the returned soldiers were not more given to profanity, drunkenness, gambling or other vices than were those who had remained at home without other excitement than the watching for and reading the news of the battles in which the others had taken part.

A little to the surprise of their friends and as much to the disappointment of those who liked them not, such of the returned soldiers who did not re-emerge after a brief visit at home were soon engaged in the vocations of peace and quietly taking again the duties of citizens, and it was even noticed that some who had left home as merely boisterous and high-spirited youths, had been improved by the discipline to which they had been made to submit, until they had developed a manliness and strength of character that had fitted them for the duties of life as they could scarcely have been in any other way.

When the Grand Encampment met in Boston fourteen years ago there were some who feared that the temptations placed before them in a great city and the pleasure of meeting so many friends and former comrades might result in excesses which they would regret later on, but if there were such instances they were exceptions to the general rule, and all the papers of Boston were united in saying that never had there been a gathering of so large a body of men belonging to any organization visiting in Boston for a week which had been so orderly and quiet as that had been, and this has been their record in other cities.

Not the least interesting feature of the Encampment here will be the presence of many of the veterans of the Confederate army as the guests of some of our Grand Army posts. This is as it should be. When the armies lay opposite each other the pickets could fraternize with one another and exchange coffee and tobacco in the absence of their officers, though they expected to be fiercely battling on the morrow. While each was fighting for what he believed to be right, there was no personal enmity to taint their intercourse in their moments when the deadliest feud, and there should certainly be none now, nearly forty years later, when each has learned to know the other better and respect them more, and when their descendants have fought and marched side by side under the old flag.

There is little likelihood that the Encampment will again be in Boston, or if it is, it must be with greatly reduced numbers, but we can bid them farewell and wish them well wherever they may be during the few years they remain.

England as a Grain Buyer.

The practical dependence of England upon outside nations so far as concerns the food supply is at the base of the present movement to put an import tax on grain. In the event of war with a country having a powerful navy, England might be starved into submission, since the reserve food supply would be cut off within a few weeks after the ports were closed.

It is argued that by a grain tariff favoring Canada it might be possible to obtain the supply largely from the Empire itself and thus be independent in peace or war, always supposing that England will be able to continue first in rank among the sea powers. If this plan is adopted the market for American grain would be hurt, unless we should make some kind of a reciprocal arrangement which would secure a special rate also on American grain.

An authority states that four out of every five loaves of English bread are made from foreign wheat, and that while England consumes 200,000,000 bushels of wheat a year, she raises but fifty million bushels on her own farms. Within a few years the English yield will probably sink to twenty million bushels, while the consumption will be more

than three hundred million bushels. Thirty years ago England raised 120,000,000 bushels and imported only sixty million bushels. The two hundred million bushels which she now imports she gets from America, Argentina, Canada and Russia.

The Great Canal.

Four members of the commission who have charge of the building and completion of the Panama Canal have gone to the isthmus for a conference with the fifth member and the civil governor of the canal zone. By the beginning of next month some conclusion will be arrived at concerning the question whether the entire job shall be let out to contractors or be divided by laborers directly employed by the United States Government. When this matter is decided eight or ten months may be employed in making other necessary arrangements, so that excavation may be delayed until mid-summer of next year. This will give time for securing the necessary mechanical equipment and for the importation of laborers.

It has been found that the machinery left by the French canal company originally cost \$25,000,000, and the dredges, cars and locomotives, valued at \$2,000,000, may be of service, but the greater part of the material necessary for the proper prosecution of the work must be bought fresh. The laborers on the canal at times have reached the number of sixteen thousand, but at present there are available only one thousand acclimated Jamaican negroes. Provision must, therefore, be made for new hands on a large scale, whether they come from China or the West Indies.

Before construction is renewed extensively, the canal zone will be placed in a good sanitary condition as possible, and provision will be made for a plentiful supply of good water for officials and laborers, and a scientific sewerage system in Colon and Panama. The breeding of mosquitoes, too, will be checked by three expeditions, including the draining of the swamps, their treatment by chemicals and the lifting of the water level.

In the August number of The Engineering Magazine, it is shown by General Abbot that under the management of the French company for seven years, beginning in 1881, the average number of cases of disease due to climatic causes was 42.72 per cent. of the total number of employees. This percentage was reduced by the new company in 1893 to 13.65 and in 1901, under the same control, it fell to 6.85. When work is fully in operation, under American direction, this percentage will, no doubt, fall even lower, until the isthmus is almost entirely free from the disease and death-breeding peculiarities for which it has long been noted, and, perhaps, it may become a place it will be a pleasure to visit instead of one to be avoided by travelers in search of new and agreeable experiences. Yankee enterprise and American regard for healthful conditions may yet transform the route of the canal into a healthful waterway, connecting two oceans, which none will fear to cross.

Electrical machinery, it is said, will be largely utilized in the canal work, and this indicates wisdom. The New York Tribune indicates that power must be required at a great many points along the canal route, and that if this is generated at a few central stations and distributed in the form of electricity great economy will result. Electricity, too, could be used in various other ways that would conduce to the comfort and convenience of all employed. Of course the outfit for these purposes would be bought in the United States, since in that case it could be imported free of duty.

The building of the canal is a great undertaking, and its completion will add to the glory of the United States as a progressive nation that has realized the dreams of years in a thoroughly practical way that will benefit the entire world as well as her own people.

Notes from Washington, D. C.

The price of wheat has been soaring. Why? The stock market took advantage of an opportunity to bull up prices, using as a basis the reported damage to the Minnesota and Dakota crop through rust. And the Northwestern bulls have been industrious in killing off the whole crop of that area. By the time this letter sees print the truth will probably be known that the rust damage is but slight, and that the total crop will be only slightly affected by it. In the meantime much business damage is done. Financial concerns are fearful of advancing money as usual, knowing that, if reports are true, they will have to finance many a wheat farmer through the coming season, who, with a good crop, would be amply supplied with money. Bad news travels fast, but even authoritative denials of the scare are slower in being received and credited.

Have you read Kipling's "Jungle Book," in a chapter of which he tells about Letting in the Jungle? The inhabitants of the jungle make it so uncomfortable for the man family of a nearby community by concerted attacks, that the humans leave the vicinity in despair and in a short time the jungle, with its rapid growth of vegetation, again holds fall away and all but obliterate the efforts of puny men to reclaim it from the wilderness. In a recent trip through such prosperous farming States as Maryland, Ohio, Indiana and Illinois, I noted many instances of the letting in of the jungle. Land which had been bravely cleared and planted to cultivated crops had been, after a few years, allowed to go back and to grow up to weeds, brambles and scrub. No dangerous wild beasts lurk therein, but the seeds of sloth, indolence and bad management had everywhere sprung into prominence, and the land has become well-nigh as unproductive as as non-contributing to the human community as did the Indian jungle. Year after year goes by, and such lands lie practically idle, sustaining useless growths, where, by a little foresight and small guidance, the stores of fertility might be converted into useful and slightly groves of nut, post or wood-bearing trees, even admitting that it is impracticable to work farm crops. There will never be a lack of a good market for locust or catalpa-logs, railroad ties or telegraph and telephone poles, and there is no latitude or longitude in the country where some useful and profit-making tree will not make a merchantable growth on the poorest soil. The years slip by rapidly and useful, quick-growing trees soon add large value to vacant land. If of eight or ten years do not bring them into actual marketable condition, it increases the value of the land they occupy, just as a two-thirds matured

crop of wheat makes land more valuable than that which lies fallow; only that land once planted to trees yields a continuous annual crop for a man's lifetime.

The Minnesota State Farm has bred wheat with an increased yield of eighteen per cent. This means an increase, upon the same acreage, of fifteen million bushels of Minnesota No. 1 red spring wheat. It would mean an increase of nearly three bushels per acre, or over a hundred million bushels. The process is simple, as related to me by Professor Hays, the State agriculturalist. The first step is simply a matter of selection. Each wheat seed is self-pollinating and it will come true to seed. In a bushel of wheat there are various kinds. Some of the seed will produce at the rate of fifteen bushels per acre; some at twenty bushels and some perhaps at twenty-five bushels, on good land. It is a question of selecting out the best seed. The first year's step is to take some good wheat and plant a large number of grains, about four inches apart. Out of the whole lot the very best fifty grains are selected and planted the fifty of the preceding year. And so on for several years. Finally after eight or ten years fifty wheat kernels will result much superior to the original seed and, as in the case of Professor Hays' experiment, these were then planted for seed and as soon as a sufficient amount had been accumulated, distributed among farmers and seedsmen, who are rapidly introducing the improved seed throughout the State in place of the common seed. The more complex part of the experiment is the artificial crossing or hybridizing of different plants of this improved sub-variety. Professor Hays believes it is not too much to expect that fifteen-bushel wheat can be selected and bred up first to twenty-bushel wheat, and later to twenty-five bushel wheat.

"But I would not dare predict this," he said, "because people are impatient for immediate results, and such accomplishments are secured only by long and patient systematic effort." Professor Hays' accomplishments, however, already performed, even should they go no further, rank him as one of the foremost of the scientific agriculturists of the day who do things.

A report from Tennessee shows that the farmers of that State spend annually about \$1,500,000 for fertilizers, whereas the droppings from the one million head of cattle of all classes in that State, according to results obtained at the Ontario Agricultural Station, are worth about \$40 a head a year. It will be seen that an appalling waste is going on when one considers how insignificant an amount of stable manure is being placed on our farms.

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GUY E. MITCHELL.

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The Workbox.

KNITTED SHAWL, STAR STITCH.
One pound of Shetland wool, one shade; 1 pair No. 8 bone or rubber knitting needles. Cast on 128 stitches to make a scarf shawl of the ordinary width. The knitting forms star-like figures.

1st row—One plain (*) over as though to seam, slip 1, narrow. Repeat from (*) till 1 stitch remains, knit that.

2d row—Like 1st.
3d—Knit plain. In knitting the slipped stitch and the third that lies over it, knit the slip stitch first, then thread over.

Repeat these 3 rows until the shawl is two yards long, or as long as desired. Bind off. Leave the sides unfinished and knit a five-inch fringe into the ends.

BABY'S CAP.

This is made to wear under sheer lace or lawn caps when cool. One skein two-thread Saxony yarn is used, No. 14 steel needles. Cast on 50 stitches for lower edge of crown.

First row plain. Second row purl. Third row plain. Fourth row purl. Fifth row plain. Repeat these 5 rows, thus forming 2 ribs, 1 on right side and 1 on wrong. Repeat until there are 11 ribs on right side, 10 on wrong side. On the eleventh rib on wrong side, narrow at beginning of second and fourth rows. This completes the crown of crown. Take up 53 stitches along one side of crown, knit the 46 stitches on the top of the crown, and take up 53 stitches along the other side. This is the first rib row on the right side. On it carry out the ribs until there are 6 on the right side and 6 on the wrong.

Make a row of crochet all round hood through which run ribbon, finish with a scallop. Run the ribbon through plain, bringing down ends to tie under the chin.

EVA M. NILES.

Washed Face in Milk, Became Wrinkled.
A writer on beauty in one of the society papers urges her readers never to wash the face with soap and water, as being certain destruction to a fine complexion. I cannot indorse this view.

Cleanliness is absolutely necessary to the beauty and delicacy of the texture of the skin. If soap is not liked, at least oatmeal should take its place, and pure or distilled water invariably be used. I once saw the result of only washing the face with milk in a lady who started life with a good complexion, but before she reached middle age had lost all freshness, and showed a faded skin covered with fine wrinkles. Nothing equals the complexion of the country woman who rises early, is much in the open air, and bathes freely in cold water. The homely idea of washing in the dew of the morning as an aid to beauty is simply a practical way of expressing this fact.—London Graphic.

No Sense in Getting Drowned.

"Now that the swimming season is fairly under way," said Capt. "Tom" Riley, the veteran "Coney Island life-saver," "may not be a bad idea to give a few pointers to the average bather, that may come in useful to him some time or other."

"The first piece of advice I would give is: Don't go far from shore. Swimming is one of the hardest exercises in the world, and a man must be well used to it. No matter whether he is as fit as a fiddle to run a five-mile race in record time, let him be careful how far he tries to swim."

"Every muscle is used when a man is swimming, many of them that are never brought into play in any other way. This is the main reason why so many fellows get into trouble every year."

"They feel good and strong, and when they get into the water they swim and swim until they get tired. Then when they try to swim back again their strength plays out, and if help isn't near by they get rattled. The next day the newspapers have an account of 'An expert swimmer drowned.'"

"Getting rattled is another thing to guard against. Nine times out of ten this has more to do with people getting into trouble than anything else. Whatever you do or wherever you are, keep cool—keep your nerve. A man can stay afloat a long time if he won't get rattled, no matter what's the trouble with him."

"There's a spot just off Norton's Point where you can't make headway in one direction or the other. If you are caught in there with a boat you can't pull out, so you can have an idea of what kind of work a swimmer has out for him. There is only one thing to do, and that is to keep cool and quiet, and after awhile the current will carry you out, but you can't get out by swimming. That is what we call a 'sea pump.'"

"In a race I had once some years ago from the Battery to Coney Island I got caught in this place. I knew it the minute I reached it, so I didn't try to swim, but turned over on my back and floated. In the course of a few minutes I was whirled out, and went on and won my race. Now, an inexperienced swimmer would have got rattled, made big efforts to get out, and finally have tired himself out and sunk."

"Don't be afraid of cramps is another thing that all swimmers should remember. There has been so much said and written about cramps that people are scared to death when they feel a little cramp coming on in a toe or hand. Then they lose their nerve altogether and give up, where by being cool they could have made their way to shore in safety. Lots of the pleasure of bathing is taken away by this fear. I want to say that cramps are not at all dangerous, but they are never so bad that a swimmer can't take care of himself. Swimmers with any kind of ability ought to be able to swim any reasonable distance with any kind of a cramp. The ones who are not good swimmers should always hug the shore and never take chances."

"Cramps are brought on by swimming. So, when you feel one coming on, stop using the leg or arm where it is located. If you turn over on your back and float a while, that will give the cramp a chance to go away, but even if it doesn't, it won't prevent you from swimming slowly and getting to shore."

"Most people think a cramp spreads gradually until it goes all over the body from a little cramp in the toe. This isn't so. It is always confined to the leg or arm where it starts. This is proved by the fact that it goes away when you quit using the leg or arm. I have never yet been in a swimming race for a long distance that I haven't had a cramp in a leg or arm. I got one in my right leg one time so bad that the leg looked at the knee joint every time I made a kick. Yet I not only finished the race, but won it."

"Whenever you hear cramp stories some one is sure to mention stomach cramps. They are supposed to be the most dangerous kind. You hear where people are doubled up like a jackknife and then sink like a stone. Now, as a matter of fact, in my experience I never had a stomach

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First Aid to the Complexion.

Now is the season when women complain of the harm done to their complexions by the open-air life. The cause is simple, and so is the remedy.

The woman at a summer resort who washes her face in hard water will soon find that her skin is chapped. The woman who comes in from a dusty drive and bathes her face with water, either hot or cold, and then goes out again into the wind and sun will have a crop of freckles as her sure reward.

The proper way to wash the face is to use soft, warm water. Take a cold bath in the morning, if you will, but do not try to wash the face in cold water. The outside will surely chafe if you do. Let the water be lukewarm, and add to it a little borax to soften it.

Then after the face has been washed, do not go directly out into the air. Nothing will chafe the skin sooner.

Remain indoors half an hour after washing the face, and do not let the sun play upon it during that time. A little forethought in the matter will save the skin many a bad scorching and will prevent many a batch of freckles.

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Poetry.

A SERENADE.

Oh, dream of me, my darling,
A dream both loving and true,
Sweeter than days of springtime
And tender as eyes of blue.

Softly, dear songbirds awake her,
She smiles in her quiet sleep;
Gently kind breezes tell her
Her lover's vigil keeps.

Oh, dream of me, my darling,
Ere the day begins again,
A dream of joy and gladness,
With never a trace of pain.

DORA ANN CHASE.

THE PORCH.

I.
When father built the veranda,
He kicked about the expense,
But she said:
"Don't mind it, Ed—
Don't think of dollars and cents."

II.
That autumn Clara was married,
It made no glad as could be,
And she would help me bear
Most all the while,
"I'm proud of that porch," said she.

III.
Last summer both Belle and Amy
Would race for the porch at night,
Of all the rest
Of us thought best
To stay indoors, out of sight.

IV.
But Belle ran faster than Amy—
She got her man in July;
And I'll commend
That porch to send
A bachelor's oath sky high.

V.
Last Sunday Amy informed us
That she had told Jimmy "yes,"
And now we three,
Pa, ma and me,
Can get on that porch, I guess.

—Cleveland Leader.

THE SIMPLE DESIRE.

O Master let me walk with Thee,
In lowly paths of service free;
Tell me Thy secret, help me bear
The strain of toil, the fret of care.

Help me the slow of heart to move
By clear, bright windows of love;
Teach me the wayward feet to stay,
And guide them in the homeward way.

Teach me Thy patience, still with Thee
In closer, dearer company;
In work that keeps faith sweet and strong,
In trust that triumphs over wrong.

In hope that sends a shining ray
Far down the future's broadening way;
In peace, that only Thou canst give,
With Thee, O Master, let me live.

—Washington Gladden.

APPLE PIE.

Let others praise the red, red rose,
Whose haunting scent none may forget,
But almost anybody knows
The apple pie is sweeter yet.

Let others sing the daisy dale—
Who thrills them with bewitching art—
But apple pie does more than all
And trips the highway to my heart.

And if it's cold—
Say one day old—
I want all of it I can hold!

When apple pie has held the shelf
Until it's cool and crisp and firm,
I'll eat a whole big one myself
And never murmur—not a word!

Why, when it's sliced and served with cream,
And chuckles when its honeyed juice
In tantalizing dregs beguiles
The cravings that it has set loose.

O, if it's cold—
Say one day old—
I want all of it I can hold!

—W. D. Nesbit, in *Ainslee's*.

WAR IN THE EAST.

The battle again for thine altars,
O Goddess of Peace!
Once more the red demon is loosened,
Death's hounds have released!

Ah, the sorrow untold, ah, the anguish,
Ere conflict shall cease!
Will the dove and the bough of the olive
Ne'er, ne'er be supreme?

Is good-will but a pitiful byword,
A diplomat's theme?
And the time of the Nazarene's vision,
Is that but a dream?

—Clinton Scollard, in *Harper's Weekly*.

IN IT YOU?

Some one's selfish, some one's lazy;
Is it you?
Some one's sense of right is hazy;
Is it you?

Some one lives a life of ease,
Doing largely as he please—
Drifting idly with the breeze;
Is it you?

Some one hopes success will find him;
Is it you?
Some one proudly looks behind him;
Is it you?

Some one full of good advice
Seems to think it rather nice
In a has-been's paradise—
Is it you?

Some one's terribly mistaken;
Is it you?
Some one sadly will awaken;
Is it you?

Some one's working on the plan
That a masterful "I can"
Doesn't help to make the Man—
Is it you?

Some one yet may "make a killing";
Is it you?
Some one needs but to be willing,
And it's you.

Some one better set his jaw,
Cease to be a man of straw,
Get some sand into his craw—
And it's you.

—Baltimore American.

My dead love came to me and said,
"God gives me one hour's rest,
To spend with thee on earth again:
How shall we spend it best?"

"Why, as of old," I said; and so
We quarreled, as of old;
But, when I turned to make my peace,
That one short hour was told.

—Stephen Phillips.

A beggar, bent beneath the weight of years—
To wretchedness bowed, half reconciled,
Entreated help, and I could give but tears;
Yet grateful looked the man on me and smiled.

—Florence Earle Coates, in *Harper's*.

Miscellaneous.

Their First Quarrel.

"I felt really sorry for Kimmeline," said the woman visitor. "It made me feel uncomfortable, of course, being a guest, but I was sorry for her, anyway. They seemed to get along quite well at first, and everybody said what a happy couple they were. Of course, he was polite, but anybody could notice the sarcastic tone of his voice, and although she laughed at what he said her cheeks were pretty red. I guess it wasn't their first spat by a good many."

"I always thought they got on well together," said Mrs. Wachlopo. "He always seemed very nice to her, I know, and she seemed devoted to him."

"You can't always tell," said Wachlopo. "No, indeed," agreed the visitor. "When ever I see a couple so particularly loving and sweet, I always say to myself, 'Look out! I make up my mind that it isn't all honey and molasses.'"

"Well, you mustn't think that of us," laughed Mrs. Wachlopo. "Oh, dear, no!" said the visitor, with tremendous emphasis upon the "dear."

"Because," said Wachlopo, with conscious pride, "we haven't managed to accomplish our first quarrel yet."

"Isn't that lovely!" said the visitor. "Don't you believe him," said Mrs. Wachlopo. "We quarrel dreadfully. He's the worst tyrant."

"My dear!" remonstrated Wachlopo. "You know you are," said the young wife. "Don't you remember when we were going to the theatre the other night how fearfully savage and impatient you were with me because you were afraid we were going to miss the train?"

"Oh!" said Wachlopo, with sudden enlightenment. "You allude to my action in throwing you down the stairs and then dragging you out to the vestibule by the hair of your head. I admit that was a little impatient then."

"Why, darling?"

"But then you exasperated me by throwing boots at me when I came up the stairs."

"My dear, dear, I don't think it nice of you to say such things even in jest."

"Well, perhaps it was only one shoe and it hit me in two places."

"It really wasn't any such thing," explained Mrs. Wachlopo, turning with a distressed air to the visitor. "He's telling stories."

"Well, the old lady went, did she, sweetness?" he called, cheerfully.

"Yes," said Mrs. Wachlopo, with a slight chill in her voice, "and she's gone off to spread it all over the neighborhood that we have had a quarrel."

"A quarrel!"

"Why, certainly. I'm sure you did your best to give her that impression."

"My dear, what did I say?"

"How can you ask me? You know very well what you said."

"About dragging you around by the hair of your head? My dear, why—Ha, ha! You don't mean to say you think she had any idea of taking that seriously? Oh, ho! That's a good joke."

"You said it seriously enough. You ought to be ashamed of yourself, Henry, dear."

"My own, I wouldn't have mentioned it, but don't you think it was a little hard on me to say I was a tyrant and a savage and impatient to a stranger? I wouldn't have minded with anybody else, but that old hen."

"I don't think it's nice to call a lady a hen. Besides, she had just said she suspected things when people were too nice to each other, and I thought you would have seen that."

"Oh, I'm dense, I know—and coarse. That's twice this afternoon you've accused me of not being nice."

"I don't think it was nice."

"Just because I joked a little and—oh, what's the use of trying to explain?"

"And because I joked a little. That was to be taken in earnest, of course. You know I never thought of such a thing as your quarrelling. You know we never quarrelled yet. Why did you try to make out that we did?"

"Why did you?"

"I've already told you."

"Well, I was just following your lead. Come, don't let's lose our tempers."

"Oh, I'm perfectly calm, but you are red in the face."

"You shouldn't bite holes in your lips to show your tranquility, you—there's the doorbell again!"

"Henry!"

"This is going to be the very last."

"It was all my fault."

"No, it was mine—quite!"

"There's the bell again!"—Chicago News.

Doubt's Department.

BED IN SUMMER.

In winter I get up at night
And dress by yellow candle-light,
In summer, quite the other way,
I have to go to bed by day.

I have to go to bed and see
The birds still hopping on the tree,
Or hear the grown-up people's feet
Still going past me in the street.

And does it not seem hard to you,
When all the sky is clear and blue,
And I should like so much to play,
To have to go to bed by day?

—Robert Louis Stevenson.

A Birth They Expected.

Little three-year-old William Bryans had long wished for a little baby at his home. One winter day he said to his mother, "Mamma, where do babies come from? Where did Aunt Jennie get little baby Allen?" His mother explained to him that God sent the babies, and if he so much wanted a little baby he must ask God, so that night he ended his usual prayer with a petition for a tiny little baby.

"It will be here when we wake in the morning, won't it, mamma?"

"No, William, God won't send it so soon; it's cold, and we would not be ready for it; we will wait until it gets warm and the leaves come out on the trees, and the grass gets green, and the flowers come, then God will send it."

Now of all this conversation the father was ignorant, and what was his consternation when one day in early spring William was standing by the window and suddenly exclaimed:

"Look, papa, over there the grass is coming up all green; pretty soon God will say 'It's time for Bryans' baby.'"

—Frank L. Finch, in *July Lippincott's*.

Snake Hypnotism.

Graham Peck, a well-known authority on snakes, was asked his opinion regarding a snake's hypnotic powers. His reply was as follows:

"There is a certain power to fascinate in a snake's eyes and movements. I saw only the other day a typical illustration of the power of a snake to fascinate."

Over in the pine woods I saw a ground squirrel fascinated by a black gopher snake. The forked tongue darted out of the snake's mouth almost as regularly and rapidly as the needle of a sewing machine rises and falls. The squirrel seemed to watch it spellbound. The snake crept slowly nearer. When the gopher snake was within two or three inches of the squirrel it

gave a leap and threw three coils about the squirrel. Instantly the spell was gone. The fascination or charm had been over the little animal was no doubt broken the very moment the serpent's coils were about the squirrel. The animal gave three convulsive, terrified chirps and realized that its death moment had come.

"I believe implicitly that all snakes have a certain degree of power to fascinate their victims to death. Blacksnakes, gopher snakes and racers have the power to a large degree. Rattlesnakes have the most fascinating power among all the poisonous serpents in the Southwest. The indications of charming among poisonous snakes are deceiving sometimes. Poisonous snakes fang their prey once only. The poison does not kill at once. The victim flutters to a branch, it may be, or runs a short distance and stops. The snake watches it. The poison does its deadly work, and the bird falls. Any one who comes up, not having seen the attack, might be readily deceived into imagining that it was the glance of the snake and not the poison that caused the victim to fall."—Detroit Free Press.

Zoology at the Fair.

One day last week a large, determined-looking woman from the country stopped a young man in uniform who was crossing one of the bridges at the St. Louis Fair with the question:

"What time are the lagoons fed?"

"Fed?" he repeated, a little dazed by the question.

"Yes, fed! I said fed, and I meant fed! I understand it at twelve."

"No, at eleven," said the young man. "They are fed at eleven, one, five and eight o'clock."

He attempted to pass on; but a brandished parasol prevented. "Hold on, young man! I'll talk with you yet. Where are they kept?"

"Where are they kept?"

"The lagoons, of course. I want to see them fed. I hear it's an interesting sight. Where are they?"

"Under your feet, madam, at the present moment."

She gave an incredibly quick hop to one side, then, flushing darkly, said in a voice trembling with wrath: "I'll have you reported. Tell me the truth at once!"

"I have told you the truth. The lagoons lie under this bridge. It is water; don't you see? And it's fed with fresh water from the cascades at the hours I told you."

"You are an impertinent fellow. I may be from the country; but not a fool. I know a lagoon is an animal, not a creek. This is no way to treat a lady. You aren't fit to be a Jefferson Guard if you can't be polite."

"But then, you see, I am not a Jefferson Guard," said the young man with due meekness. "I am only a captain in the United States Army. You might ask a guard about the lagoons. Good-day."—New York Tribune.

Disappearing Chipmunks.

What has become of the chipmunks? It seems that their numbers are decreasing rapidly. When I was a boy the home woods swarmed with them. In the same woods now I do not see one, where fifty years ago I saw twenty; and in the oak and chestnut woods which now surround me they have disappeared unaccountably in the past twenty-five years. Each spring there are fewer and fewer. What is sweeping them away? No new enemy has appeared that I am aware of. In my boyhood they made themselves quite a nuisance by pulling up the corn near the stone walls, and many a June morning my father has sent me with old flint-lock musket to shoot them. Infamously, this enemy, both boys and the shooting matches that used to take place fifty or more years ago resulted in destroying thousands of them, but seems hardly adequate to account for their continued disappearance.

On the other hand, the red squirrel, according to my observations, is on the increase, and I suspect that the red squirrel is the enemy of the chipmunk. One day along the highway I saw a red squirrel in red pursuit of one. The chipmunk was so closely pressed that, seeing no other means of escape, it plunged into a pile of half-burned leaves and ashes, and was hidden in a twinkling. The squirrel stopped short at the edge of the ashes, looking about for a moment (I fancied him) to himself, "The little cuss, where did he go so quickly?" and then went on his way. After a few minutes the chipmunk came, cautiously, all covered with ashes, looked nervously about him, and then darted into the stone wall.—John Burroughs, in *Outing*.

Just Like Boys.

In the days when a brown-stone front was regarded as the outer and visible sign of "gentility," and when life in New York was a simpler matter than it is today, there lived in one of the orthodox mansions a certain highly respectable maiden lady and two nephews, cousins, to whom she was guardian.

A classmate and chum of the elder boy had become the happy possessor of a rooster, which the sister assured him, had a "gamy" snarl, and to him, infatuated by this eulogy, both boys were sold for a "match," and not having the means wherein to purchase an antagonist, they put their heads together to compass the borrowing of one, and with the following results:

The younger cousin, an unusually polite and gentle little boy, very much enjoyed the first holiday to the grocery where the family dined, ostensibly to order a chicken for dinner. "But," he said, pointing to a coop of live fowls, "my aunt wants to see it before you kill it."

The grocer assented, and forthwith drew from the coop a small, round, fat, delectable bird. But the boy would have none of it. He had set his heart on a rainbow-colored rooster with enormous comb and tail.

"Why," said the grocer, "that is the very toughest old customer in the bunch."

"My aunt likes them tough," said the gentle little boy.

In a couple of hours the rooster was borne back to the store—one eye shut, his comb torn and bloody, and but one feather of his beautiful tail left. But he was crowing so triumphantly that a small crowd followed him. He had suffered, but the bird with the "big gamy snarl" to him was nowhere.

"My aunt is much obliged to you," said the polite and gentle little boy to the astonished grocer. "She can't decide today, but she would like to look at him again next Saturday."

The Century.

Brilliant.

Last night I walked among the lamps that gleamed,
And saw a shadow on a window blind,
A moving shadow, and the picture seemed
To call some scene to mind.

I looked again; a dark form to and fro
Swayed softly as to music full of rest,
Bent low, bent lower—Still I did not know,
And then, at last, I guessed.

And through the night came all old memories
Flooding,
White memories like the snowflakes round me
Whirling.

"All's well!" I said; "the mothers still at rocking-
The cradles of the world!"—Will R. Ogilvie.

I crave, dear Lord,
No boundless hoard
Of gold and gear,
Nor jewels fine,
Nor lands, nor kine,
Nor treasure-heap of anything.

Let but a little hut be mine;
Where at the hearthstone I may hear
The cricket sing,
And have the shine
Of one glad woman's eyes to make,
For my poor sake,

One simple home a place divine;
Join the weaver of the cricket's choir—
Love, and the smiling face of whies.
—J. W. Riley ("Afterwhites").

Over a winding, wayside wall,
Ragged and rough and gray,
There crept a tender, clinging vine,
Timeless day by day.

At last its mantle of softest tint
Covered each jagged seam,
And the old wall, once so grim and gray,
Was now a tender, clinging vine,
Timeless day by day.

The struggling wall half broken down
By that last leaf, tilted crown,
Fair as an artist's dream.

O for the kindness that clings and twines
Over life's bare and barren wall,
That blossoms above the scars of pain,
Striving to hold them all!

O for the helpful, ministering hands,
Beneficent, willing feet,
That spread rich mantles of tender thought
O'er life's hard places, till man has wrought
It's healing—divine, complete.
—Christian Advocate.

Gems of Thought.

.... We may win fullness of life by being interested in all human experience, by keeping in touch with all sides of human life. We win fullness of life by knowing nothing of fear except fear of wrong, by being sincere in our thinking, sincere in our speaking, sincere with others, and sincere with ourselves.—Elmer Gordon.

.... A man who does not know how to learn from his mistakes, turns the best schoolmaster out of his life.—Beecher.

.... When I think how long a little child is helpless, absolutely dependent on another's love, when I think of the long stages of our growth up the steep slope to moral and spiritual manhood; when I remember that every vision that beckons us and every hope that fires us and every truth that illuminates and saves us was won out of the riches of God, through the discipline of the chastening angel, I feel that the belief of God in man is wonderful. He hath believed in us, and therefore hath made no haste. We speak a great deal about our faith in God. Never forget God's glorious faith in us.—G. H. Morrison.

.... Rules always have and suspect the next in succession.—Tacitus.

.... When one is sad or out of sorts for any cause whatever, there is no remedy so infallible as trying to make somebody else happy.—J. W. Carney.

.... Under there is no mother there can be no child. Their duties are reciprocal; and if they are badly fulfilled on one side, they will be neglected on the other.—Rousseau.

.... The wonderful thing about a man is his power to become.—E. I. Bosworth.

.... He is not truly patient who is prepared to suffer only so much as seems good to himself, and only from those whom he himself chooses.—Thomas a Kempis.

.... The devil never tempted a man whom he found judiciously employed.—Spurgeon.

Popular Science.

With his rubber life-preserving suit, Joseph Probst of Geneva has remained in the water a month at a time, subsisting on food carried in the suit.

.... The belief that temperatures are highest during sunspot minima is opposed by Mr. A. B. Macdonald, who finds evidence that during the last sixty years sunspot maxima have been accompanied in England by the higher temperatures.

.... Of the meteorological attempts to prove a connection between barometric pressure and the moon's phases and between relative humidity and the moon's phases.

.... Trees producing cotton are cultivated in the hothouses of Vera Cruz, but their fibre is very inferior to that of the cotton trees of Mexico, which are credited with having developed a rapid growth that produces cotton of long fibre and fine quality. The advantages offered by this tree, if the claims are realized, are that it is free from the diseases that are so disastrous to the cotton plant, its yield is greater for the same area, and its product can command a higher price.

.... A remarkable cure of a cancerous growth by an application of electricity has been reported by S. Leduc, a French medical man. The growth was on the right side of the nose and had been in constant ulceration for five years. To its entire surface was applied a plug of hydrophil cotton impregnated with a one-per-cent. solution of zinc chloride. This was connected to the positive pole of a battery, the negative pole being connected to some other part of the body through a large electrode, and a current of eight milliamperes was passed for twelve minutes without causing pain. The ulcer was completely scarred over ten days later.

.... In his experiments on the physiological effects of radium, M. Curie has placed a guinea pig in a close chamber, which was supplied with a current of oxygen and contained a jar of potash to absorb the carbon dioxide given off by the animal. The radium emanation was sent into the jar through a tube. After a certain time, the guinea pig, from whom the animal's respiration became short and abrupt, he rolled himself into a ball with his hair standing on end, then fell into a profound torpor and became cold, death finally resulting after a respiration as low as six per minute. The body showed intense putrefaction, with diminution of the white corpuscles of the blood. The tissues were found to be radioactive, affecting a photographic plate, the hair having the greatest effect and the skin but little.

.... The gliding boat of Count de Lambert, which has given such surprising results on the water, is now being used in the absence of the Count. It consists of two shafts, each eighteen feet long, which are coupled side by side, and which have flat bottoms, with a series of five transverse planes slanting down from fore to aft at an angle of about thirty degrees. As the propeller is driven forward, the inclined planes raise the vessel to the surface, over which it glides. With a motor of fourteen-horse power, a speed of 17 to twenty miles an hour was reached, a rate that ordinarily requires two or three times as much power.

Notes and Queries.

THE MOONS OF MARS AND JUPITER.—Investigation of the inner of the two moons of Mars, Phobos, enjoys a distinction which no other member of the solar system enjoys in that it courses three times around the planet before the latter turns around once. Although the fifth moon of Jupiter, discovered on Sept. 9, 1892, by Dr. Barnard of the Lick Observatory in California, has the short period of twelve hours, it is still about two hours longer than the time which Jupiter requires to spin around his axis. There it ought, however, to be noticed that the rotation of Jupiter is exceptionally rapid. If the planet's axis were perpendicular to the plane of its orbit, as does Mars, or the earth, then the new satellite of Jupiter would present the same feature to its primary as we actually find in Mars and his inner satellite.

THE FIRST EQUESTRIAN WASHINGTON STATUE.—The first movement to erect an equestrian statue to General Washington was inaugurated in the Continental Congress in 1783. The first one, however, was not erected until 1860, and was designed by Clark Mills. It stands in Washington Circle at the national capital.

THE LATEST LONDON.—"Walter," who illustrates the suburbs, has a population of 6,681,372, an increase of just under one million in ten years, more than half of which occurred in the "outer ring." At the ages of nineteen, twenty, twenty-one to twenty-five, and twenty-five to thirty, there are more males than females in the suburbs. It is pointed out, in considering the excess of females over males, account must be taken of the large number of female domestic servants who are brought into London from the country. London has 224,398 female servants and only 14,423 male servants. London has less children than it has had for many years, but it has more people over forty-five than ever before.

ALMANAC.—"S. N. T." The word "almanac" came to us from the Arabic "al," the definite article in the Arabic tongue, and the "manakh," which signifies a calendar. The word calendar is from the Latin *calendar* (the first day of each month), and this is probably derived from a word *calare*, to call (cognate with the Greek *kalō*) because it was customary in very ancient times to summon people together at the beginning of a month to make known the calendar arrangements for that month.

ETHER WAVES.—"L. B." The effects of movements in the ether depends upon the unity of the vibrations producing them. The unit of measurement for short waves in the ether is the micron, which is about 1/25,000,000 of an inch.

Waves measuring 380 to 810 microns affect our sense of sight, the former number giving violet and the latter red color. The invisible rays—ultra-violet and X-rays—are measured as short as one hundred microns. Ether waves longer than those giving light give the feeling of warmth. The longest heat waves are eight times the length of those of the red rays, or 1-3500 of an inch. At the other end of the scale are electric waves above 150 feet in length—those used by Marconi being one-eighth of a mile.

LAND HEIGHTS.—"Senter." The mean height of land above sea level, according to the most scientific geographers, is 2,250 feet. The mean depth of the oceans is 12,450 feet. Only two per cent of the sea (oceans in general) is included inside a depth of five hundred fathoms, while seventy-seven per cent lies between five hundred and three thousand fathoms. If the land were filled into the hollows of the seas, water would rise to the earth's crust to a uniform depth of two miles.

Historical.

.... "Toasting" appears to have originated at Bath, England. It was the habit two hundred years ago for ladies to bathe in public, dressed in buckram, in the company of their male friends and acquaintances. One day a celebrated beauty was so bathing, surrounded by her admirers, who were dipping their glasses in the water and drinking her health. One of these, however, being a little tipsy, poured the liquid not like the liquor, but would get the "toast," and could hardly be restrained from jumping into the water. He alluded to the practice of the day of adding a piece of toast to the special wine of the beverage.

.... It is in the Italian rapier play of the late sixteenth century that we find the foundations of fencing in the modern sense of the word. The Italians—of we take their early books as evidence, and the fact that their phraseology of fencing is as much the same as that of the modern periculis (as soon as the problem of armor breaking ceased to be the most important one in a fight) the superior capabilities for elegant slaughter possessed by the point as compared with the edge. They accordingly reduced the rapier to a sword, modified the hilt portion thereof to admit of a readier thrust action, and relegated the cut to quite a secondary position in their system. This lighter weapon they devised in course of time that brilliant, cunning, catlike play known as rapier fence. The rapier was ultimately adopted everywhere by men of courtly habit, but in England, at least, it was not accepted without murmur and vituperation from the older fighting class of swordsmen.

.... Breach-loading fire-arms are generally supposed to be quite modern, says the Springfield Republican, but as students of the subject are clearly right, very curious experiments with breach-loaders and revolvers were made at an early date. Thus there was recently sold by auction in London a bronze breach-loading cannon, four feet six inches

